

ALASKA STATE LEGISLATURE
SENATE LABOR AND COMMERCE STANDING COMMITTEE

February 23, 2022

1:31 p.m.

DRAFT

MEMBERS PRESENT

Senator Mia Costello, Chair
Senator Joshua Revak, Vice Chair
Senator Peter Micciche
Senator Gary Stevens
Senator Elvi Gray-Jackson

MEMBERS ABSENT

All members present

COMMITTEE CALENDAR

SENATE BILL NO. 179

"An Act relating to the establishment of a renewable portfolio standard for regulated electric utilities; and providing for an effective date."

- HEARD & HELD

SENATE BILL NO. 132

"An Act exempting veterinarians from the requirements of the controlled substance prescription database."

- HEARD & HELD

PREVIOUS COMMITTEE ACTION

BILL: SB 179

SHORT TITLE: UTILITIES: RENEWABLE PORTFOLIO STANDARD

SPONSOR(s): RULES BY REQUEST OF THE GOVERNOR

02/04/22	(S)	READ THE FIRST TIME - REFERRALS
02/04/22	(S)	L&C, FIN
02/23/22	(S)	L&C AT 1:30 PM BELTZ 105 (TSBldg)

BILL: SB 132

SHORT TITLE: CONTROLLED SUB. DATA: EXEMPT VETERINARIAN

SPONSOR(s): HOLLAND

04/28/21	(S)	READ THE FIRST TIME - REFERRALS
04/28/21	(S)	HSS, L&C
02/03/22	(S)	HSS AT 1:30 PM BUTROVICH 205
02/03/22	(S)	Heard & Held
02/03/22	(S)	MINUTE(HSS)
02/08/22	(S)	HSS AT 1:30 PM BUTROVICH 205
02/08/22	(S)	Moved SB 132 Out of Committee
02/08/22	(S)	MINUTE(HSS)
02/09/22	(S)	HSS RPT 4DP
02/09/22	(S)	DP: WILSON, REINBOLD, BEGICH, HUGHES
02/23/22	(S)	L&C AT 1:30 PM BELTZ 105 (TSBldg)

WITNESS REGISTER

CURTIS THAYER, Executive Director
Alaska Energy Authority (AEA)
Anchorage, Alaska

POSITION STATEMENT: Introduced SB 179 on behalf of the administration

JESS GEHIN, Ph.D. Associate Laboratory Director
Nuclear Science and Technology (NS&T) Directorate
Idaho National Laboratory (INL)
Idaho Falls, Idaho

POSITION STATEMENT: Provided information about advanced microreactors during the hearing on SB 179.

GWEN HOLDMANN, Director
Alaska Center for Energy and Power (ACEP)
University of Alaska Fairbanks (UAF)
Fairbanks, Alaska

POSITION STATEMENT: Provided invited testimony on SB 179

CHRIS ROSE, Executive Director
Renewable Energy Alaska Project (REAP)
Sutton, Alaska

POSITION STATEMENT: Testified in support of SB 179.

NIKKI ROSE, Staff
Senator Roger Holland
Alaska State Legislature
Juneau, Alaska

POSITION STATEMENT: Introduced SB 132 on behalf of the sponsor.

DR. RACHEL BERNGARTT, Chair
Board of Veterinary Examiners

Juneau, Alaska

POSITION STATEMENT: Testified by invitation in support of SB 132.

DR. TRACY WARD, President
Alaska Veterinary Medical Association
Juneau, Alaska

POSITION STATEMENT: Testified by invitation in support of SB 132.

DR. MCKAYLA DICK, Past President
Alaska Veterinary Association
North Pole, Alaska

POSITION STATEMENT: Testified in support of SB 132.

TERRI LYONS, representing self
Wasilla, Alaska

POSITION STATEMENT: Testified in support of SB 132.

ACTION NARRATIVE

[1:31:08 PM](#)

CHAIR MIA COSTELLO called the Senate Labor and Commerce Standing Committee meeting to order at 1:31 p.m. Present at the call to order were Senators Gray-Jackson, Revak, Stevens, and Chair Costello. Senator Micciche arrived soon thereafter.

SB 179-UTILITIES: RENEWABLE PORTFOLIO STANDARD

[1:31:15 PM](#)

CHAIR COSTELLO announced the consideration of SENATE BILL NO. 179 "An Act relating to the establishment of a renewable portfolio standard for regulated electric utilities; and providing for an effective date."

She noted that this was the first hearing, Curtis Thayer would provide the introduction, and then there would be invited and public testimony.

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CURTIS THAYER, Executive Director, Alaska Energy Authority (AEA), Anchorage, Alaska, introduced himself and TW Patch, the director of planning for AEA.

[1:32:27 PM](#)

MR. THAYER began the presentation with an explanation of AEA's programs and services. He summarized the following that appears on slide 2:

[Original punctuation provided.]

Railbelt Energy - AEA owns the Bradley Lake Hydroelectric Project, the Alaska Intertie, and the Sterling to Quartz Creek Transmission Line - all of which benefit Railbelt consumers by reducing the cost of power.

Power Cost Equalization (PCE) - PCE reduces the cost of electricity in rural Alaska for residential customers and community facilities, which helps ensure the sustainability of centralized power.

Rural Energy - AEA constructs bulk fuel tank farms, diesel powerhouses, and electrical distribution grids in rural villages. AEA supports the operation of these facilities through circuit rider and emergency response programs.

Alternative Energy and Energy Efficiency - AEA provides funding, technical assistance, and analysis on alternative energy technologies to benefit Alaskans. These include biomass, hydro, solar, wind, and others.

Grants and Loans - AEA provides loans to local utilities, local governments, and independent power producers for the construction or upgrade of power generation and other energy facilities.

Energy Planning - In collaboration with local and regional partners, AEA provides economic and engineering analysis to plan the development of cost-effective energy infrastructure.

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MR. THAYER turned to slide 3, What is a Renewable Portfolio Standard? He explained that it is a requirement for retail electric suppliers to supply a minimum percentage or amount of their retail load with eligible sources of renewable energy. Typically, he said it is backed with a financial or other form of incentive. Often it is accompanied by a tradable renewable energy certificate (REC) to facilitate compliance. Importantly,

RPS standards are unique to each of the 32 states that have them. They are never designed the same. He offered his expectation that Alaska's would be different going forward.

MR. THAYER paraphrased slide 4 that read as follows:

[Original punctuation provided.]

Senate Bill 179

- Senate Bill (SB) 179 promotes energy independence, long-term cost reductions, and competitive markets in Alaska's Railbelt.
- SB 179 aligns Alaska with 30 states and two territories in creating a renewable portfolio standard on the Railbelt.
- A key element of the Governor's RPS is a firm commitment to transition to 30% renewable power by 2030 and 80% by 2040.
- Expanding our renewable energy portfolio is the best way to diversify our supply thus increasing Alaska's energy security.

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MR. THAYER stated that in 2010 the legislature passed An Act Declaring a State Energy Policy. He read the legislative intent in that bill:

LEGISLATIVE INTENT. It is the intent of the legislature that

- (1) the state achieve a 15 percent increase in energy efficiency on a per capita basis between 2010 and 2020;
- (2) the state receive 50 percent of its electric generation from renewable and alternative energy sources by 2025;
- (3) the state work to ensure a reliable in-state gas supply for residents of the state;

- (4) the power project fund (AS 42.45.010) serve as the main source of state assistance for energy projects;
- (5) the state remain a leader in petroleum and natural gas production and become a leader in renewable and alternative energy development.

MR. THAYER displayed slide 6 that illustrates that from January 2012 to September 2020, the RPS policies in the participating states have shifted more toward standards and less toward goals. He noted that Alaska has been in the goal stage and SB 179 will take it more to standards.

MR. THAYER reviewed the energy production profile by source for the U.S., Alaska, and Alaska if Susitna-Watana were to be built. Today, 70 percent of the energy produced in the U.S. is still coming from oil and gas; 9 percent comes from renewable energy, primarily biomass, solar, and wind; 2 percent comes from hydroelectric; 11 percent from coal; and 8 percent from nuclear power. In Alaska today, 65 percent of the energy produced is from oil and gas; 27 percent comes from hydroelectric; 2 percent from renewable energy; and 6 percent comes from coal. At 29 percent, Alaska's portfolio of renewables falls short of the goal to have 50 percent of energy production come from renewables including hydro, but it is moving in the right direction. He noted that if Susitna-Watana or some other renewable were to be a reality, hydroelectric would account for 58 percent of Alaska's energy production.

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SENATOR MICCICHE joined the committee.

[1:38:17 PM](#)

MR. THAYER continued to slide 9 to discuss the 30 year old Bradley Lake Hydroelectric Project that is located about 25 miles from Homer on the Kenai Peninsula. It provides low-cost energy to the Railbelt members from Homer Electric to Golden Valley in Fairbanks. For example, 18 percent of the power from Bradley Lake is sent to Fairbanks consumers. The cost of this power is roughly 4 cents/kWh, whereas natural gas is 7-8 cents per kWh, and the wind farm at Fire Island currently is 9.7 cents per kWh. Bradley Lake provides about 10 percent of the Railbelt energy needs, which is equivalent to 54,400 homes/year. Last year the \$47 million Battle Creek diversion into Bradley Lake was completed and it provides electricity for the equivalent of 5,000 homes. That project was done through a partnership between

the Railbelt utilities and AEA. He highlighted that the bonds on Bradley Lake were paid off this year.

MR. THAYER continued to slide 10 to discuss the Dixon Diversion Project, which would expand the capacity of Bradley Lake. It is located five miles from Bradley Lake. Two alternatives are under consideration; Alternative 1 is a tunnel to Bradley Lake and Alternative 2 is a tunnel to the Martin River Powerhouse. The cost estimate ranges from \$160 million to \$500 million. It could provide electric energy for 17,000 to 40,000 homes, which would nearly double the output of Bradley Lake.

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CHAIR COSTELLO noted that Senator Stevens had a question.

SENATOR STEVENS asked if a lot of power is lost from Bradley Lake to Fairbanks because the lines need improvement. Noting that Susitna-Watana has always run into problems, he asked what the last illustration on slide 8 would look like if the Dixon Diversion Project replaced Susitna-Watana.

MR. THAYER replied it would have minimal affect. Bradley Lake currently provides 10 percent of the Railbelt energy and maximizing the Dixon Diversion Project would probably add 6-7 percent. He noted that subsequent slides address the needed upgrades to the transmission line, but in general, the lines leaving Bradley Lake are at capacity. The Railbelt utilities are working with AEA to make those upgrades. Subsequent slides talk about how this will happen and how it will be financed.

[1:42:33 PM](#)

MR. THAYER displayed slide 11 that outlines the steps for the Dixon Diversion Project for FY2022 through FY2024. It read as follows:

Fiscal Year 2022

- Establish river gauge
- Initiate Bradley Lake FERC License Amendment
- Alternatives Analysis Report (Conceptual Design)

Fiscal Year 2023

- Detailed mapping/topography
- License Amendment Consultations
- Environmental Studies
- Hydrology Studies
- Initial Geotechnical Investigations

- Preliminary Design

Fiscal Year 2024

- Feasibility Design and Hydrology
- Environmental Studies
- Draft License Amendment
- Detailed Geotechnical Investigations
- Operations/Power Modeling
- Environmental Assessment

MR. THAYER said the next two slides were lifted from the National Energy Lab report. The first shows where power for the Railbelt would come from in a peak demand scenario on the coldest day of the year. Hydro would be the largest piece. Slide 13 looks at the same scenario without Susitna-Watana. A lot more of the power comes from wind and solar. He noted that the wind component is untested in many places in Alaska and both wind and solar need batteries to store the power and put it onto the grid as needed. These batteries would likely be located in Homer, Southcentral (Anchorage), and Fairbanks. He said AEA looks forward to the ever changing technologies for these resources.

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MR. THAYER turned to slide 14, Railbelt Infrastructure Upgrades to respond further to Senator Steven's question about the condition of the power line from Bradley Lake to Fairbanks. He listed the Railbelt utilities, which are Chugach Electric Association, Matanuska Electric Association, Seward Electric Association, Homer Electric Association, and Golden Valley Electric Association. Together, they represent 550,000 Alaskan consumers. The plans to upgrade the infrastructure involves projects to remove transmission constraints, improve grid resiliency, and allow for better use of the Bradley Project's potential by increasing its ability to deliver more low-cost, renewable energy throughout the Railbelt grid. The lines, which are more than 30 years old and pre Bradley Lake, do not have the capacity to move additional renewables.

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MR. THAYER directed attention to the Required Project Work Summary on slide 15. The utilities are looking at working together on the following projects:

Upgrade Transmission Line from Bradley Junction to Soldotna. The transmission line would be upgraded to 230 kV or a second 115 kV line would be constructed.

Upgrade Transmission Line from Sterling to Quartz Creek.

Upgrade Transmission Line from Sterling to Quartz Creek. AEA purchased this transmission line from Homer Electric following the Swanson Lake fire to extinguish a number of lawsuits. The goal was to upgrade the transmission line from 115 kV to 230 kV and remove the 69 kV line.

Battery Energy Storage Systems (BESS) for Grid Stabilization. This project will upgrade the existing BESS system in Fairbanks and add systems in the Kenai and Southcentral regions.

Study of Alternative Path to Export Energy off Kenai Peninsula. This might be an undersea cable.

MR THAYER stated that the total cost for these projects is about \$261 million. Because the Bradley Lake power sales agreement from 30 years ago allows for required project work, the excess from the 12.5 percent that the utilities are obligated to pay for the next 20 years can go toward these projects. He estimated that this bonding could pay from \$225-\$250 million of the upgrades. AEA is working with the utilities on this bonding. The ratepayers will pay no more than they do now. He noted that the line loss to Fairbanks is estimated to cost ratepayers up to \$0.5 million per month so this will make a huge difference in that community. The upgraded transmission lines will also provide opportunities for wind and solar to serve the entire Railbelt.

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MR. THAYER briefly reviewed the Alaska Intertie. Slide 16 read as follows:

- Constructed in the mid -1980s, the Alaska Intertie is a 170 mile -long, 345 kilovolt (kV) transmission line from Willow to Healy

He highlighted that this line was designed to be upgraded and that work would need to be done for any renewable work that is done from Anchorage to Fairbanks.

- Operated by AEA and Railbelt utilities, the transmission line improves reliability within Railbelt system
- Allows Golden Valley Electric Association (GVEA) to connect to and benefit from lower cost power

- Between 2008 and 2018, the Intertie provided an average annual cost savings of \$30 million to GVEA customers

MR. THAYER emphasized that even after 30 years, Bradley Lake and the Alaska Intertie continues to save money. He directed attention to the bulleted points on slide 17 that highlight clean energy savings for the Railbelt. The slide read as follows:

- **Bradley Lake Expansion (Spillway Raise)** - \$4 million
- **Bradley-Soldotna 115kV Line** - \$66 million
- **Soldotna-Quartz Creek (and Substation)** - \$70 million
- **Bernice Lake-Beluga HVDC** - \$185 million

He noted that this is an undersea cable to take a line to Beluga and provide a second line into Fairbanks, which is similar to what Enstar Natural Gas does with two lines. AEA has just one line into Southcentral and is looking for a second.

- **Dave's Creek-University 230kV Line** - \$58 million
- **Grid Stabilization** - \$115 million

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MR. THAYER displayed slide 18, Susitna-Watana Hydroelectric Project History. He recapped that the project was first studied as a source of power in the 1950s. In the 1980s the state supported the project and by 2010 the 50 percent renewable goal were established. In 2011, the legislature unanimously authorized the Alaska Energy Authority to pursue Susitna-Watana Hydro and studies began in 2012. He reported that the state has spent \$193 million on FERC licenses and estimated it will take an additional \$100 million to get a FERC license. The previous administration put licensing of the project in abeyance and the current administration rescinded the abeyance in 2019.

MR. THAYER highlighted that the utilities along the Railbelt have expressed interest in purchasing 450 megawatts from the project and that there was interest from the private sector to build Susitna-Watana. He acknowledged that a new cost-benefit analysis was needed before any more work is done.

MR. THAYER paraphrased slide 19, Cook Inlet Natural Gas Value into the Future. It read as follows:

[Original punctuation provided.]

Opportunities:

- Home heating on the Railbelt (including potential future expansion)
- Power generation fuel on an as-needed basis and gas storage (CINGSA)
- Industrial customers in the Cook Inlet
 - Combined heat and power applications standalone customers
 - Possibility for green hydrogen production
 - In-state industrial use
 - Potential pipeline transport for minerals extraction

MR. THAYER described SB 179 as a work in progress as the state moves toward clean energy. This is something that the utilities, AEA, and the state have said they want to do and now is the time to work together to figure out a path forward. He added that the RPS is with the Regulatory Commission of Alaska (RCA) and that agency will be responsible for both the statutes and regulations.

[1:56:02 PM](#)

CHAIR COSTELLO mentioned that while the bill would create a portfolio standard for electric providers to include renewable energy, it does not consider other innovative carbon free options such as microreactors. For that reason, the invited testimony will illuminate new opportunities for Alaska to incorporate clean, reliable energy sources into the electric grid

[1:57:19 PM](#)

JESS GEHIN, Ph.D. Associate Laboratory Director, Nuclear Science and Technology (NS&T) Directorate, Idaho National Laboratory (INL), Idaho Falls, Idaho, stated that his testimony would provide information on nuclear energy as a primary source of clean, low carbon energy. It provides an opportunity to complement renewables, so it could be considered part of an energy portfolio. He explained that INL is the Department of Energy's nuclear laboratory that performs research on nuclear energy technologies, deployment, and demonstrations. He noted that INL also works closely with other laboratories on energy system integration.

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DR. GEHIN explained that nuclear energy is based on a process called fission. A nuclear reactor system harnesses the power from nuclear fission, controls it, and converts it primarily to heat that can be converted to electricity. Fuel is not burned, so carbon emissions are comparable to other renewable sources of energy. Nuclear plants provide firm power 24/7 or it can be adjusted to meet demand; operate in any weather conditions; and run for long periods between refueling. They are not subject to fuel supply disruptions. Nuclear plants in the U.S. generate about 100 gigawatts (GWh) or 20 percent of the electricity produced in the nation. It accounts for about 55 percent of the low carbon electricity generation.

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DR. GEHIN recounted the significant development in new reactor types in the last several years. Termed advanced reactors because of the technologies used, they are under development and will be demonstrated in the next decade and deployed after that. The advanced reactors use fuels and coolants that can be operated at higher temperatures and lower pressures, which leads to simpler designs, higher efficiency and a broader range of application. One size is typically less than 50 megawatts. Small modular reactors typically range from 500 [kilowatts] to 300 megawatts, and modules can be added to meet the required power demand. Smaller sized reactors can be fabricated in a factory, which reduces the cost and allows a more streamlined schedule for development.

DR. GEHIN described three microreactor concepts that will be demonstrated in the next five years.

- 1) The Department of Energy (DOE) is funding the microreactor development called Marvel. The plan is for it to start operations in 2023. It will demonstrate the processes required to get a microreactor designed, authorized, fabricated, and started.
- 2) In the 2024 timeframe, the Department of Energy Capability Office will demonstrate at INL its mobile microreactor for remote uses.
- 3) The company Oklo is developing the microreactor called Aurora. It will be demonstrated at INL in the middle of this decade.

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DR. GEHIN related that DOE's Advanced Reactor Demonstration Program is supporting public/private partnerships for other advanced reactor systems. These include:

- 1) TerraPower's Sodium Reactor, which is sodium cooled, will be deployed at a retired coal plant in Kemmerer, Wyoming.
- 2) X-energy is developing the Xe-100 gas cooled reactor that will be sited in Washington state and start up in 2027.
- 3) Kairos salt-cooled high temperature test reactor that will start up in 2026.
- 4) Southern Company and TerraPower are partnering on a Molten Chloride Reactor Experiment that will start in 2025.

DR. GEHIN also mentioned the small modular reactor (SMR) that Utah Associated Municipal Power System is moving forward on deploying on the INL site in 2029 that consists of six modules, each of which is 77 megawatts.

He said the point is that there will be demonstrations in the next decade that will prove the ability and feasibility of microreactors and small modular reactors to meet clean energy needs.

2:06:50 PM

DR. GEHIN related that there is increased interest in states to consider nuclear energy as an option. In addition to projects in Idaho, Wyoming, and Washington state, West Virginia recently removed its ban on nuclear power plants; Indiana has legislation to consider small modular reactors; Nebraska passed legislation to allow nuclear energy to qualify for renewable energy incentives; and SB 177 in Alaska seeks to streamline deployment of microreactors.

DR. GEHIN described other things happening in Alaska related to nuclear power.

- 1) Copper Valley Electric Association is working with Ultra Safe Nuclear Corporation (USNC) on a feasibility study of microreactors.
- 2) The U.S. Air Force has expressed its intention to use nuclear energy at Eielson Air Force Base.
- 3) INL has supported and collaborated to look at the role of nuclear energy in Alaska. This includes the study by MIT

and supported by the INL Market Initiative, which included participation from the University of Alaska Anchorage faculty and staff. A finding was that microreactors are cost effective because they provide both heat and electricity.

- 4) The University of Alaska, Anchorage supported studies that looked at use cases for nuclear energy in Alaska.

DR. GEHIN stated that the foregoing are concrete projects that will demonstrate the feasibility of a wide range of nuclear energy concepts. Microreactors that provide heat and power look particularly attractive for remote communities and rural areas. In the next ten years these demonstration projects will show how these reactors perform. Nuclear energy is clean and it meets all the objectives of a renewable energy portfolio standard, and because of the emerging efforts, it warrants consideration for a future energy source.

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CHAIR COSTELLO asked him to talk about the safety considerations and the small physical footprint of a microreactor.

DR GEHIN stated that the physical footprint for a micro might be the size of a shipping container while others may have a garage size building. There may also be support buildings around the facility itself. Safety considerations include exclusionary area emergency planning zones, which are unoccupied spaces. He relayed that the Nuclear Regulatory Commission (NRC) is working to update the requirements for emergency planning zones given the small size and enhanced safety of these small reactors. The expectation is that the emergency planning zones will be limited to the physical area of the reactor. By comparison, large gigawatt class reactors may occupy 50 acres.

With regard to safety, he said a lot of work has been done on light water reactors since Fukushima to maintain cooling after a reactor shuts down, because the heat produced during the fission process does not immediately go to zero. Existing reactors need power to cool the reactor within 72 hours if power is lost. Without power, a disaster like what happened at Fukushima occurs. New safety measures for those reactors have been to put systems in place to ensure that power is maintained. By comparison, decay heat for advanced reactors does not require any operator action to maintain cooling, which significantly enhances safety if there is an incident at a reactor.

[2:13:28 PM](#)

SENATOR MICCICHE asked if there has been a delay in the development of microreactors because he would have expected something on the market by now.

DR. GEHIN said no; there has been discussion for some time but the development and deployment timeline for this nuclear technology has been quite fast.

SENATOR MICCICHE observed that in certain applications in rural Alaska, 300 megawatts was a significant amount of generation. He asked what portion could go toward heating structures versus providing electrical power.

DR. GEHIN clarified that reactors under design range from less than a megawatt to 300 megawatts or more. Microreactors currently are being developed in the megawatt range. The reactor that will be demonstrated at INL is in the 100 kilowatt range.

He explained that the 300 megawatt reactor mentioned earlier is the upper limit for a small modular reactor and it will produce 700-800 megawatts of heat. It depends on the design of the reactor and the power conversion system, but one can decide whether some or all will go directly to heat and how much will go to electricity. The waste or rejected heat can also be used for different processes.

SENATOR MICCICHE asked what it would take for the renewable community to accept micro nuclear reactors as a renewable source of energy.

DR. GEHIN offered his view that the nuclear community is working closely with the renewable community. Combining firm power from nuclear with renewables makes it is easier to manage variabilities. He described it as infinite batteries. He added that reactors can also be designed to work with renewables for thermal energy storage. The reactor in Wyoming, for example, has the ability to maneuver power through thermal energy storage to adjust to variable renewables.

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SENATOR STEVENS noted that hydro power in his community of Kodiak costs about 6 cents/kWh. He asked what it would cost to run a small nuclear plant.

DR. GEHIN said that it would be hard to compete with that because established hydro is very cost effective. Analyses have been done that show the cost would be from 10 cents/kWh to as

much as 50 cents/kWh for the very small nuclear systems. These systems would only be competitive in small rural locations that rely on diesel that is shipped in. He said the goal is to match with the appropriate market.

CHAIR COSTELLO invited Gwen Holdmann to comment on the bill or the approach it takes.

2:19:59 PM

GWEN HOLDMANN, Director, Alaska Center for Energy and Power (ACEP), UAF, Fairbanks, Alaska, stated that it is fairly common for nuclear to be excluded from an RPS. No other state includes nuclear as eligible under a RPS, although a bill introduced in California in 2020 would have made nuclear eligible under its RPS standard. The European Union (EU) also recently declared nuclear a green technology. She said Alaska does not have nuclear as part of its renewable energy mix, but she believes it has potential as part of a future mix.

MS. HOLDMANN agreed with an earlier comment that the use of nuclear has been discussed for a long time. She noted that there were no vendors looking at microreactors when the Alaska Center for Energy and Power first reported to the legislature on modular nuclear reactors in 2011, but that has changed. Now a number of vendors are actively looking at smaller reactor designs. She highlighted that there is a plan to install up to a 5 megawatt reactor at Eielson Air Force Base by 2027.

MS. HOLDMANN stated that ACEP has been working with the Idaho National Lab to analyze opportunities for microreactors under 50 megawatts of electric power output for the Alaska market. She highlighted that including microreactors in this RPS would provide additional grid resilience for critical infrastructure. This would be similar to the Eielson project where both heat and power could be provided to critical nodes on the Railbelt grid. She agreed with Dr. Gehin that there is the potential to regulate variable renewables. Mr. Thayer talked about the need for additional energy storage on the Railbelt grid, but microreactors could potentially be an alternative solution since they have the ability to firm up renewable energy resources while providing other energy sources like electric power and heat. This is different than a battery. There are potential industrial applications as well as for rural hubs. She opined that nuclear could support other opportunities in Alaska related to hydrogen or synthetic fuel production.

MS. HOLDMANN related that ACEP has been working on the economics and possible use cases for microreactors and hopes to continue to do so as part of a statewide roadmap for nuclear energy. She mentioned that many states have a clean energy standard (CES) instead of a renewable portfolio standard RPS. The key differences include energy efficiency, carbon capture, and nuclear. She noted that this might exclude biomass, which is considered renewable but it does have emissions. She concluded her comments saying that she did not see that an RPS would necessarily exclude nuclear.

2:25:27 PM

SENATOR REVAK noted that the committee heard about hydro power that cost about 6 cents/kWh. He asked if she had an idea of the cost for nuclear.

MS. HOLDMANN said it will not compete with 6 cents/kWh hydro power. ACEP is working with INL to understand the value streams that come from a microreactor and she believes there will be a place from an economic basis for these types of systems as part of the state and national energy mix in the future.

SENATOR REVAK asked how many states have RPS policies or clean energy standards, and how that has affected the rates for users.

MS. HOLDMANN said she did not have the answer, although she recalled that Mr. Thayer said about half the states have some type of RPS or clean energy standard.

SENATOR MICCICHE asked if the NRC was looking at tiered permitting such that the evaluation is different than for typical nuclear construction.

MS. HOLDMANN answered that the idea over the long term is for the National Regulatory Commission to license the technology then a separate licensing process would be specific to the site to ensure that the technology is appropriate for the site. The expectation is that the reactor design would not need to go through multiple levels of relicensing for every individual project because they will be developed and built in a factory to exacting specifications.

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SENATOR MICCICHE asked if anyone had modeled a community on a megawatt Btu balance for generation versus heat and waste heat and looked for applications for a district heating system versus outlying electrification using waste heat heating.

MS. HOLDMANN offered to meet separately or set up a Lunch and Learn on such details. She relayed that ACEP currently is looking at potential use cases to better understand the energy streams. These are: Fort Wainwright and downtown Fairbanks; the university; a remote community; and a remote mine site She said ACEP has very good electric power data but heating data is lacking for many users in the state. She noted that sites that have an existing steam heat district heating system such as Fort Wainwright and downtown Fairbanks are potentially examples of where one could replace a coal plant at the end of its life with a microreactor. She opined that such use cases might have more economic value than just the power generation itself. ACEP is working with the developers and manufacturers on this model and there is a supplemental request in the university's budget to fund that effort.

CHAIR COSTELLO said she believes that a Lunch and Learn would be helpful to give people an idea of the work that ACEP is doing with this technology and the potential for application in the state.

[2:33:02 PM](#)

CHAIR COSTELLO opened public testimony on SB 179.

[2:33:15 PM](#)

CHRIS ROSE, Executive Director, Renewable Energy Alaska Project (REAP), Sutton, Alaska, stated support for the Renewable Portfolio Standard (RPS) as written. He agreed with previous comments that RPSs typically do not include nuclear and opined that there were practical reasons for maintaining the existing standard. Some of the nuclear technology that is under discussion will not be available for 5-10 years. Furthermore, the cost of nuclear energy from microreactors will not be close to 6 cents/kWh. Solar and wind currently are the least expensive power option available in the country. He opined that nuclear will not be competitive with wind and solar in the next 19 years, which is the range of the RPS put forward in SB 179. He urged the committee to keep the RPS to those technologies that are currently available.

CHAIR COSTELLO asked if he knew why the 80 percent by 2040 requirement was set and if that is achievable.

MR. ROSE explained that the National Renewable Energy Laboratory (NREL) looked at whether an 80 percent standard was achievable and determined that in the Railbelt that standard could be

achieved without impacting reliability. All the scenarios included the updated transmission and batteries that Mr. Thayer discussed and continued natural gas generation to supply the remaining 20 percent of the power.

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CHAIR COSTELLO discerned that nobody else wished to comment and she closed public testimony on SB 179.

CHAIR COSTELLO held SB 179 for further consideration.

[2:38:16 PM](#)

At ease

SB 132-CONTROLLED SUB. DATA: EXEMPT VETERINARIAN

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CHAIR COSTELLO reconvened the meeting and announced the consideration of SENATE BILL NO. 132 "An Act exempting veterinarians from the requirements of the controlled substance prescription database."

She stated her intention to move the bill if public testimony didn't go beyond 3:00 p.m.

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NIKKI ROSE, Staff, Senator Roger Holland, Alaska State Legislature, Juneau, Alaska, introduced SB 132 on behalf of the sponsor. She paraphrased the following sponsor statement:

Alaska's 25th legislature created the Prescription Drug Monitoring Program (PDMP) in 2008. The legislative intent behind the PDMP was to create a database of prescriptions for controlled substances in the state. The PDMP may create obstacles for individuals seeking opioids to obtain multiple prescriptions from registered providers and may be a useful tool for human doctors in combating the opioid crisis. Under the current statutory framework, Alaska's veterinarians are required to participate in the PDMP, despite the irreconcilable differences between human and veterinary medical practice. PDMPs have been implemented in all 50 states, but 34 states have recognized the unsuitability of veterinary participation in the PDMP and exempted veterinarians. SB 132 would add Alaska to that list.

The majority of states exempt veterinarians from PDMP because they have recognized that PDMPs are designed for use in human medicine; and veterinary exclusion from PDMPs does not increase risk to the public. Alaska's inclusion of veterinarians in the PDMP has produced no identifiable benefit; yet the PDMP has created a multitude of verifiable harms to the veterinary profession and the Alaskans they serve. The PDMP is inappropriate and not effective for use with animal patients, as animals do not have identifiers such as a social security number, and veterinarians must view human owners' private health data before treating an animal.

Alaska has the highest veterinary licensure cost in the United States. Veterinary participation in the PDMP contributes to this unnecessary financial burden on a profession already experiencing extreme staffing shortages, decreasing availability of veterinary services to Alaskans. Moreso, a recent survey found attempted veterinary doctor shopping across the entire United States is essentially non-existent.

Veterinarians are tightly regulated by the Drug Enforcement Agency, the Know Your Customer Act, and the State licensing board. SB 132 seeks to correct an expensive overreach so that Alaskans can have access to treatment for their pets without compromising public safety.

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MS. ROSE presented the sectional analysis for SB 132 that read as follows:

[Original punctuation provided with minor formatting changes.]

Sec. 1

AS 17.30.200(o), relating to the controlled substance prescription database, is amended by deleting the Board of Veterinary Examiners from the list of required notification by the Board of Pharmacy when a practitioner registers with the database.

Sec. 2

Adds veterinarians to the list of practitioners not required to comply with the controlled substance prescription database under AS 17.30.200(t).

Sec. 3

Adds a definition of "practitioner" to AS 17.30.200(u)

Sec. 4

Repeals AS 08.98.050(a)(10), which obligates the board of veterinary examiners to require licensees to register with the controlled substance prescription database.

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SENATOR STEVENS shared that he knew a veterinarian who became addicted to drugs that he prescribed to animals. He asked if the bill had sideboards to ensure that does not happen in the future or if that situation is independent from what the bill does.

MS. ROSE explained that this database would not capture that kind of misuse because an individual would not put information about their own drug use into the database.

CHAIR COSTELLO suggested that the invited testifiers could talk about how veterinarians must look at pet owners' personal prescription history even though veterinarians have no training in human health matters.

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SENATOR REVAK mentioned the concern about doctor shopping to feed an addiction and said he didn't want to exacerbate that problem, but he did want to find a solution for veterinarians.

CHAIR COSTELLO invited Dr. Tracy Ward and Dr. Rachel Berngartt to give their presentation.

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DR. RACHEL BERNGARTT, Chair, Board of Veterinary Examiners, Juneau, Alaska stated that she has been an Alaska licensed veterinarian since 2002 working in a wide variety of practice areas and she was speaking in support of SB 132.

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DR. TRACY WARD, President, Alaska Veterinary Medical Association, Juneau, Alaska stated that she has been a veterinarian for 32 years and has worked in several fields and she also spent considerable time in the pharmaceutical industry. She is currently a small animal practitioner and

in several months will transition to a shelter veterinarian.

SENATOR STEVENS asked Dr. Ward and Dr. Berngartt to address the concern about veterinarians who become addicted to the drugs they prescribe for animals.

DR. BERNGARTT explained the process when a veterinarian enters data in the Prescription Drug Monitoring Program (PDMP) and said veterinary addiction is probably outside the PDMP because professionals who are struggling with an addiction are very unlikely to enter their own data into the PDMP.

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DR. WARD said she believes some of the prepared testimony addresses that concern a little more.

DR. WARD stated that both the Alaska State Veterinary Medical Association, which is the professional body, and the Alaska Board of Veterinary Examiners, which is the regulatory body, strongly support SB 132. She and Dr. Berngartt would discuss the reasons.

DR. WARD highlighted that just last Thursday the Alaska Board of Pharmacy met and voted in support of this exemption. They agree with the other 34 states that have concluded that including veterinarians dilutes and confuses the database. This vote was significant because this is the board that monitors, maintains, and interprets the data in the PDMP.

DR. WARD provided background on Alaska's PDMP. It was established in 2008. In response to the growing opioid epidemic, the PDMP was amended in 2017 to require participation by all federal Drug Enforcement Administration (DEA) permit holders, including veterinarians. Neither the Alaska State Veterinary Medical Association nor the Alaska Board of Veterinary Examiners were not consulted when the amendment was proposed.

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DR. WARD said there are a number of reasons that it makes sense to exempt veterinarians. She would speak about the practitioner concerns and Dr. Berngartt would talk about the regulatory concerns.

She highlighted that the PDMP was not intended to be a database for animals so it is not an effective tool for tracking prescriptions for veterinarians or their patients. The primary reason is the database was designed for human medicine. Veterinary patients are animals and they do not have unique identifiers such as a Social Security number and the date of birth is often not known. When the law passed initially there was some confusion about who the veterinarian would query because the Act talked about querying the patient and the patients in a veterinary practice are animals. It soon became clear that veterinarians were supposed to query the animal owner's prescription data when they prescribed a controlled substance for the animal. This is despite the fact that the information in the PDMP is not useful to veterinarians because they are not trained in human medicine and dosages do not translate from human to animal medicine. The data a veterinarian enters into the PDMP for an animal patient is similarly not useful for a medical doctor.

DR. WARD said Senator Revak brought up the next concern which is privacy. Veterinarians are not trained in or bound by the federal Health Insurance Portability and Accountability Act (HIPPA) Privacy Rule. Furthermore, veterinarians often work on shared computers in a large treatment area so many people could see the information that is entered. This is a concern for both veterinarians and their clients. She asked the members if they would want somebody who is not bound by HIPPA to see their private prescription data. She pointed to the list of common medications that veterinarians might see.

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SENATOR REVAK recalled when they met he was comforted that she mentioned that the dosages prescribed for animals is comparatively small. This would make it much less likely that an individual would "vet shop" to obtain drugs for their personal use.

DR. WARD said that is relevant and she would respond to that later in the presentation.

SENATOR STEVENS noted that dosages for large animals such as horses could be quite large, then asked if anybody tracked excessive use of drugs in a veterinary practice. "How can you protect society from someone who may not have scruples?"

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DR. WARD acknowledged he had valid concerns and noted that the next slide discusses the fact that veterinarians are monitored by the Drug Enforcement Agency and must adhere to controlled substance regulations. She said she also wanted to respond to his comment about large animals. She related that she has experience with cattle, swine, and equine practice and can say that controlled substances are almost never used in food animals, because the cost would be prohibitive. Opioids are never used on horses because their gastrointestinal tract would become impacted and the animal would likely die.

SENATOR STEVENS thanked her for the response and shared that his knowledge of veterinary science extends to All Creatures Great and Small.

DR. WARD addressed the concern about abuse or diversion of drugs by veterinarians. First, the PDMP was not intended to track that information. It is about stopping shopping, not diversion or self-use. If a veterinarian were to purchase a drug for their own use or for diversion that would not be entered into the database. There are, however, strict regulations through the Drug Enforcement Agency (DEA). Any veterinarian who prescribes or dispenses controlled substances is licensed through the DEA and must adhere to strict accountability, record keeping, and medication storage requirements. Those records must be available to the DEA on demand and local law enforcement agencies may also request access.

DR. WARD continued to explain that manufacturers and distributors of controlled substances are bound by Know Your Customer type legislation that requires them to maintain a Suspicious Order Monitoring System. These companies must monitor, flag, and report a veterinarian's unusual purchase patterns to the DEA. This is how the majority of veterinary diversion is found. She drew a parallel to a credit card company calling clients to ask about unusual/potentially fraudulent charges on their card.

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DR. BERNGARTT delivered the second half of the presentation. She reported that 34 other states have exempted veterinarians from participating in the PDMP so Alaska would not be a guinea pig. Increased veterinary

shopping or increased risk to the public would already be evident, but that hasn't happened.

DR. BERNGARTT made the case that veterinarians are not a source for the drugs that are of primary concern. She spoke to the following from slide 9:

- The Board of Pharmacy reported that veterinarians in Alaska from 2016–2018 prescribed .3% to 1% of total Morphine Milligram Equivalents (MMEs).
- Opioid medications prescribed by veterinarians (728,223) were only 0.34% of the total opioid prescriptions (214 million) that were dispensed by U.S. retail pharmacies in 2017.
- There is a natural barrier to vet shopping since costs for veterinary care are paid up front by the pet owner.
- There have been no identified cases of veterinary shopping in Alaska.

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DR. BERNGARTT said another reason it makes sense to exempt veterinarians from the PDMP is cost. Speaking as the chair of the Board of Veterinary Examiners, she said the board has seen an exponential increase in the cost of investigations because the PDMP is unwieldy. She highlighted that the state received a grant to cover some of the cost of the PDMP. Costs are distributed between the PDMP and the Board of Veterinary Examiners, but the grant does not cover the board side of investigations.

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DR. BERNGARTT directed attention to slide 11 that highlights that Alaska has the highest licensing fees for veterinarians in the country. The state also has a critical shortage of veterinarians and veterinary technicians. Juneau, for example, used to have a nine doctor veterinary hospital, and two hospitals that each had two doctors. Currently, no overnight emergency animal services are available in the community. Veterinary technicians are also in very short supply. Further, Alaska has perhaps the highest licensing fees for veterinarians in the country. This makes it difficult to attract veterinarians to the state. Alaska currently has 366 veterinarians who are eligible to prescribe under the PDMP and just 266 licensed technicians. That is less than one technician per doctor, so it is not realistic to think that the technicians could

be charged with entering data into the PDMP to provide relief for veterinarians.

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SENATOR STEVENS referred to the last line on slide 11 that talks about charging veterinarians for the cost of enforcement. He asked if she could place a dollar value on this charge to veterinarians.

SR. BERNGARTT explained that the board is self-supporting so the cost associated with the PDMP and investigations comes from the fees charged to veterinarians and veterinary technicians. Over the last several years the investigative fees have become a concern and the only way to cover those additional costs is to raise licensing fees.

SR. BERNGARTT concluded the presentation stating that a "Yes" vote on SB 132 will allow veterinarians to:

- provide care for their patients;
- spend time with their patients instead of needless querying and reporting unusable PDMP data
- increase the efficiency of the PDMP by eliminating animal data that is not used
- allow more efficient tracking of human data in the PDMP
- allow continued judicious use of controlled substances that is already practiced by veterinarians, who are regulated under the DEA
- allow veterinarians to continue to do their job
- eliminate unnecessary business burdens

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SENATOR GRAY-JACKSON said she appreciates the concerns of her colleagues but since the bill was introduced last year she has received many emails in support of the legislation. She asked if there was any opposition to the bill, because she had heard none. She added that SB 132 makes sense and she signed on as a co-sponsor.

DR. WARD replied that the Board of Pharmacy initially expressed concerns similar to those articulated by committee members, but the board recently voted to support the bill.

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CHAIR COSTELLO opened public testimony for SB 132.

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DR. MCKAYLA DICK, Past President Alaska Veterinary Association, North Pole, Alaska, stated that she is a veterinarian who supports SB 132. It will allow the PDMP to function as intended, which is to catch drug shoppers.

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TERRI LYONS, representing self, Wasilla, Alaska, stated that she is a horse owner and there is a huge need for large animal veterinarians in Alaska. She spoke to the difficulties she has when her horse is in need of medical attention in the middle of the night. SB 132 is one thing that can be done to help this desperate situation.

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CHAIR COSTELLO closed public testimony on SB 132.

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At ease

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CHAIR COSTELLO reconvened the meeting and stated she would hold SB 123 for future consideration.

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SENATOR MICCICHE said the discussion during the at-ease was that he and other legislators amended the Alaska PDMP law in 2017 in the belief that it would help to stem opioid abuse. He said he has come to the conclusion that including veterinarians in the PDMP is not the way to manage this crisis.

SENATOR STEVENS said he was not trying to hold the bill up because everything he heard makes sense. However, his personal experience is causing him pause.

CHAIR COSTELLO said the veterinary community has worked hard on this legislation and she appreciates that work. She said her office would work to ensure that everyone is comfortable with the bill.

CHAIR COSTELLO held SB 132 in committee.

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There being no further business to come before the committee, Chair Costello adjourned the Senate Labor and Commerce Standing Committee meeting at 3:21 p.m.